Louisiana's Progress toward Visibility Protection Of the Breton Wilderness Area

Introduction

Established in 1904, the Breton National Wilderness Area (hereinafter, Breton) is the second oldest refuge in the National Wildlife Refuge System, and is comprised of a chain of barrier islands approximately thirty miles off the southeast coast of Louisiana (Figure 1). A portion of Breton has wilderness status and is classified as a mandatory Class I Federal area. Because of this classification, it is afforded visibility protection by the Clean Air Act (hereinafter, the CAA) as amended in 1977. Visibility is a term used to characterize the physical limitations in ambient air quality that affect visual range, contrast and coloration. Visibility limitations may be natural, such as fog and mist, or may be caused by manmade air pollution.

Background

The CAA amendments of 1977, especially Section 169A, established the protection of visibility in federal Class I areas as a national goal. In 1980, the US Environmental Protection Agency (hereinafter, EPA) established a phased regulatory approach to visibility protection. The emphasis of the first phase was to remedy existing and future impairment caused by air emissions. These visibility protection regulations established long-range goals, a planning process, implementation procedures, new source review, and a monitoring strategy for all states containing Class I federal areas. While these regulations remain unchanged, the 1990 amendments of the CAA reaffirmed the importance of visibility protection.

Louisiana submitted a Part I Visibility Plan on October 9, 1985 that was approved by EPA in the June 10, 1986 Federal Register (51 FR 20967). The Louisiana State Implementation Plan (SIP) revision, "Protection of Visibility, Proposed Part II – Long Term Strategy," was approved by EPA in the December 19, 1988 Federal Register (53 FR 50958). The approved SIP meets the requirements of 40 CFR § 51.302 and 51.306.

In July 1999, the regional haze regulations (64 FR 35713) were developed to track the progress toward the national visibility goal for Class I areas. The program set three parameters for each state to follow:

1.) Collect baseline conditions data;
2.) To assess natural conditions that would be experienced in the absence of human-caused conditions, and;
3.) To assess current conditions for the best and worst days that would be used with the baseline conditions to monitor progress in the future.

Purpose of Report

The purpose of this report is to review the long-term strategy to ensure that the SIP is adequate for preventing impairment of visibility at Breton in agreement with Phase I EPA visibility regulations. Further, it is used to provide the public and EPA a comprehensive analysis of the progress toward the national visibility goal.

Emissions Trend Analysis

In agreement with Louisiana's long-term strategy, a triennial review of emission inventories of stationary sources in parishes within 100-km distance of Breton has been performed. Emission data was obtained from certified actuals reported by stationary sources to the Louisiana Department of Environmental Quality (hereinafter, LDEQ).

Data collected and analyzed are on pollutants chosen due to their effect on visibility. These pollutants are: total suspended particulates and PM_{10}, sulfur oxides, nitrogen oxides and volatile organic compounds. Certified actuals were also obtained from the Mississippi Department of Environmental Quality (hereinafter, MDEQ) for those counties within the 100-km radius of Breton.

The surrounding parishes included in this report are Jefferson, Orleans, Plaquemines, St. Bernard, and a small portion of Lafourche[1]. Further, for the first time the report will include emissions data from the Mississippi counties of Pearl River, Hancock, Harrison, Stone, George and Jackson.

[1] St. John the Baptist Parish emissions will be omitted from this report and Lafourche Parish emissions will be added to the table along with the inclusion of the Mississippi information.

A geographically referenced map (Figure 2) was developed by the department in 1996, which defined the 100km radius around the Breton and identified sources within that area. As the map includes an aerial extent of Breton, it has been revised to include those facilities in Mississippi that emit more than 100 tpy of those criteria pollutants affecting visibility. The Louisiana facilities that have closed or are no longer reporting have been removed.

Table 1 compares reported annual actual emissions for the 2000-2002 report period, as well as emissions reviewed in previous progress reports. Reported actuals in the table may differ from reported actuals in prior visibility reports because inventories (1990 and forward) are constantly updated to reflect the most recent and most accurate data available to the department. Figures reported reflect most recent Emission Inventory System (EIS) data (1990 forward); and assumed corrections to prior years (1984 – 86) where such adjustment are not made directly to the EIS database maintained by the department.

Table 2 represents the stationary source emissions inventory information for 2000, 2001 and 2002, which was supplied by the MDEQ

Table 1: Annual Emission Levels (tons per year) for Pollutants from Louisiana Parishes* within 100-KM of Breton

YEAR	TSP/PM_{10}	SO_X	NO_X	VOC
1990	4,335	27,951	70,144	16,254
1993	4,096	26,268	70,388	16,887
1994	3,985	21,603	68,364	16,354
1995	3,619	17,486	67,480	16,437
1996	3,318	16,412	61,864	15,261
1997	3,716	16,116	63,473	14,749
1998	3,068	15,502	65,179	12,647
1999	2,777	14,694	63,808	10,574
2000	2,344	14,581	59,010	8,440
2001	2,311	14,127	44,360	8,595
2002	1,768	10,671	49,761	7,027

*** Jefferson, Lafourche, Orleans, Plaquemines, and St. Bernard Parishes**

TABLE 2: Annual Emission Levels (Tons Per Year) for Pollutants from Mississippi Counties* within 100-KM of Breton

YEAR	TSP/PM_{10}	SO_X	NO_X	VOC
2000	3867	84663	33424	2879
2001	3465	65019	30787	2876
2002	2804	56980	25784	2361

***Pearl River, Stone, George, Jackson, Harrison, Hancock Counties**

Review of PSD Control Strategy

Prevention of Significant Deterioration (PSD) permit review requires an analysis of the impact of air emissions on Class I areas from a proposed new major stationary source or major modification. All parishes included in this report are currently in attainment for all NAAQS. Any required modeling must take into account stationary, area and mobile source emissions in determining new source modification impact on Breton. During this review period, January 2000 through December 2002, there has been one PSD permit issued in the 100 km radius of Breton. This permit was issued to 310-Boilers Unit, Alliance Refinery, BP Oil Company in Belle Chasse, Plaquemines Parish, Louisiana.

According to the permit, a Class I Area impact was performed and showed that the maximum modeled 24-hour PM/$PM_{10,}$ annual PM/$PM_{10,}$ and annual NO_2 concentrations were below the Class I 24-Hour significance levels. Therefore, no further pollutant impact analyses were required. In addition, visibility and regional haze analyses were performed. The Level I visibility screening analysis results show imperceptible plumes. The color difference parameter, delta E, and the green contrast value, Cp, were below critical value thresholds. For the regional haze analysis, $PM_{10,}$ NOx, and NO_3 concentrations at Breton were calculated using a refined long-range transport model. Modeling results indicated no days with delta deciviews greater than the threshold value of 0.5; therefore, project emission changes will not adversely affect regional visibility at the Class I area. PSD allowable increment, modeling significance level, and monitoring de minimis concentrations were not exceeded.

Consultation with the Federal Land Manager

The Assistant Secretary for Fish and Wildlife and Parks, Department of the Interior, is the officially designated Federal Land Manager (FLM) of Breton. The Air Quality Branch serves as the FLM's technical representative for the purposes of reviewing air quality impacts on Breton. The LDEQ provides the FLM consultation opportunity on applicable PSD permit applications, and on triennial reviews of long-term strategy effectiveness.

In the development of Louisiana's periodic review report for compliance with Phase I, Part II requirements of the visibility protection plan, the FLM was requested in a letter dated August 1, 2003, to submit any certification of impairment attributable to a source to the LDEQ not later than September 30, 2003. The LDEQ has not received any certification of attributable source impairment from the FLM for inclusion in this report. A copy of the letter is attached.

Conclusions

The evidence provided in this report shows that the current long-term strategy provisions included in the SIP are adequate to meet national visibility goals and prevent future impairment as required by current EPA and Louisiana Administrative Code regulations. Further, there has been no FLM certification of attributable source impairment and analysis of significant actual reductions in pollutants that contribute to visibility impairment continue to show a decline.

Mandatory Requirements:

1. 40 CFR Section 306(C) Provide periodic review and revision, as appropriate, of the long-term strategy not less frequent than every three years. The review must include consultation with the FLM and a report to the public and the Administrator on progress toward the national goal.

This report provides the required periodic review of the long-term strategy. The last review was conducted through this same report mechanism and submitted to EPA Region 6 on December 19, 2000.

This review process provides for consultation with the FLM. The State considers and responds to review and comments made by the FLM on the draft report. All FLM considerations and the State's responses are appended to the final report made available to the public and submitted to EPA Region 6. After FLM consultation on the draft report is completed, the draft is updated with comments and responses and is submitted in final form to EPA Region 6.

A copy of this report is available at the LDEQ Headquarters, Public Records Center, Room 127, 602 N. Fifth Street, Baton Rouge, La. 70802 and at the DEQ Southeast Regional Office, 201 Evans Road, Bldg. 4 Ste. 420, New Orleans, La. A notice of this report submittal and availability for review and comment was submitted to the official state journal, the Baton Rouge *Advocate* and the New Orleans *Times Picayune*, for publication on or before November 20, 2003; and to the Louisiana Register for potpourri publication on November 20, 2003. Copies of these notices, as well as the comments that were received, are attached as Appendix B and D.

2. 40 CFR Section 51306 (c)(1) Progress achieved in remedying existing impairment of visibility in any mandatory Class I Federal Area

Not Applicable. There is no identified existing attributable source visibility impairment at Breton from Louisiana state regulated sources.

3. **40 CFR § 51.306 (c)(2) The ability of the long-term strategy to prevent future impairment of visibility in any mandatory Class I Federal Area**.

The department concludes that current control strategies are adequate to prevent future visibility impairment. The department is attentive to and will continue to monitor developments concerning Lightering Zones in the Gulf of Mexico, as well as the proposed Floating, Production, Storage and Offloading Systems (FPSOs) that may be constructed in the deepwater portions of the Outer Continental Shelf.

4. 40 CFR § 51.306 (c)(3) Any change in visibility since the last such report, or in the case of the first report, since plan approval.

Neither LDEQ nor the FLM has perceptibly measured any changes at Breton. The FLM has not provided the department with certification of attributable source impairment, or any site monitoring data specific to Breton that shows any change in visibility since the last report. The predominant emission trend continues to reflect decreases from pollutants that contribute to visibility impairment in the 100km radius of Breton.

5. 40 CFR § 51.306 (c)(4) Additional measures, including the need for SIP revisions that may be necessary to assure reasonable progress toward the national visibility goal.

Reasonable progress toward the national visibility goal is evidenced by the analyses and conclusions presented in this report. No additional control measures or SIP revisions are determined necessary at this time.

6. 40 CFR § 51.306 (c)(5) The progress achieved in implementing Best Available Retrofit Technology (BART) and meeting other schedules set forth in the long-term strategy.

Since no existing attributable impairment of visibility in the mandatory Class I Federal area has been identified by the FLM, BART has not been implemented in the State of Louisiana and thus BART is not applicable.

7. 40 CFR § 51.306 (c)(6) The impact of any exemption granted under Section 303.

No existing stationary facilities in Louisiana were subject to BART requirements as explained in the previous section; therefore, no exemptions were granted under Section 303.

8. 40 CFR § 51.306 (c)(7) The need for BART to remedy existing visibility impairment of any integral vista listed in the plan since the last such report, or in the case of the first report, since plan approval.

This is not applicable since there are no integral vistas listed in the plan.